



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/768,758	01/30/2004	Theodore Thomas Blackmon	107051-0023	7062
24267 7590 02/19/2009 CESARI AND MCKENNA, LLP 88 BLACK FALCON AVENUE BOSTON, MA 02210				
EXAMINER ANTONIENKO, DEBRA L				
ART UNIT		PAPER NUMBER		
3689				
MAIL DATE		DELIVERY MODE		
02/19/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/768,758

Applicant(s)BLACKMON, THEODORE
THOMAS**Examiner**

DEBRA ANTONIENKO

Art Unit

3689

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This is a Final Office Action in response to communications received November 28, 2008, wherein:

Claims 1, 17, 21, 23, 26, 27, and 33-39 have been amended; and

Claims 1-40 are pending.

Response to Amendment

2. Applicant's amendment to Claim 33 is sufficient to overcome the 35 USC §112, second paragraph rejection set forth in the previous Office Action.
3. Applicant's amendments to independent Claims 17, 34, and 39 are sufficient to overcome the 35 USC §101 rejections set forth in the previous Office Action. Therefore, the 35 USC §101 rejections to Claims 17-40 are withdrawn.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1-16 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

In order for a method to be considered a "process" under §101, a claimed process must either: (1) be tied to another statutory class (such as a particular apparatus) or (2) transform underlying subject matter (such as an article or materials). See *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588

n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *In re Bilski*, 545 F.3d 943, 88 USPQ2d 1385 (Fed. Cir. 2008). If neither of these requirements is met by the claim, the method is not a patent eligible process under §101 and is non-statutory subject matter. With respect to independent Claim 1, the claim language does not include the required tie or transformation and thus is directed to nonstatutory subject matter. Claims 2-16 are dependent and are rejected in a like manner.

A method claim must meet a specialized, limited meaning to qualify as a patent eligible process claim. A mere field-of-use limitation is generally insufficient to render an otherwise ineligible method claim patent eligible. This means the machine or transformation must impose meaningful limits on the method claim's scope. The steps of the instant Claim 1 are generating, mapping, determining, and selecting. It must be clear that an apparatus or machine is performing the steps recited in the method claim.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwegler et al., "New Information Technology Tools Enable Productivity Improvements," 2000 North American Steel Construction Conference Proceedings,

2000, pages 11/3-11/20 (hereinafter Schwegler) in view of Kroeger, U.S. Patent

Application Publication Number 2002/0165723 A1 (hereinafter Kroeger).

Examiner's Note: The Examiner has pointed out particular references contained in the prior art of record within the body of this action for the convenience of the Applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply. Applicant, in preparing the response, should consider fully the entire reference as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

Regarding Claims 1, 17, 34, 39, Schwegler teaches managing a construction project comprising: generating a computerized simulation model for the construction project representing project materials in the construction project (page 11/6, section 1.3; Figure 1); mapping the project materials represented in the computerized simulation model into constructible elements (page 11/6, ¶14; effective staging and sequencing of work).

Schwegler does not explicitly disclose determining at least one work step for each constructible element; and selecting at least one constructible element to create a work package in the computerized simulation model, the work package comprising the at least one constructible element and the at least one work step for the at least one constructible element.

However, Kroeger does disclose making a list of development tasks to be performed for the entire project [0005] and that all elements of a project may be treated as tasks ([0096]; [0106]; Table 1; Table 1A). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify and include in Schwegler's simulation the

capability of Kroege's invention to break down a project into smaller elements in order to manage the project efficiently and effectively. It is well known to break down large projects into smaller, more manageable segments in order to complete the project.

Regarding Claims 2 and 19, Schwegler further teaches organizing the constructible elements into construction areas in the computerized simulation model (Figure 2).

Regarding Claims 3 and 18, Schwegler does not explicitly teach organizing the constructible elements into construction crafts in the computerized simulation model. However, Kroege discloses organizing the construction into the different crafts (Table 1A). It would have been obvious to one of ordinary skill in the art at the time of the invention to separate the elements into the different crafts in order to be able to hire the particular subcontractor to do the job. It is well known that subcontractors are by craft, i.e., electrical, plumbing, carpentry.

Regarding Claims 4 and 20, Schwegler teaches organizing the constructible elements into systems for testing and turnover in the computerized simulation model (Figure 2; page 11/9, section 2.3; page 11/11, section 3.1.2).

Regarding Claim 5, Schwegler does not explicitly teach prioritizing procurement of the constructible elements based on target installation dates of the constructible elements. However, Kroege discloses prioritizing procurement based on target installation dates

([0005]). It would have been obvious to one of ordinary skill in the art at the time of the invention to prioritize procurement based on target installation dates in order to save time and money. This is well known.

Regarding Claims 6, 26, 35, and 40, Schwegler further teaches generating a visual display of the computerized simulation model (page 11/5, section 1.2).

Regarding Claims 7, 27, and 36, Schwegler further teaches generating an interactive three-dimensional graphical display of the computerized simulation model (page 11/5, section 1.2; page 11/10, section 2.5).

Regarding Claims 8, 21, 22, and 38, Schwegler further teaches allowing a user to point-and-click on the at least one constructible element in a visual display of the computerized simulation model to select the at least one constructible element (page 11/5, section 1.2; links between any level of detail of the product and process models; page 11/10, section 2.5).

Regarding Claims 9 and 23, Schwegler does not explicitly teach providing status information. However, Kroeger discloses ([0153]). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide status information of tasks in order to manage the project efficiently and effectively.

Regarding Claim 10, Kroeger further discloses keeping track of tasks completed ([0154]). It would have been obvious to one of ordinary skill in the art at the time of the invention to keep track of when tasks are completed in order to manage the project efficiently and effectively. This is well known.

Regarding Claims 11 and 24, Kroeger further discloses time estimates for tasks ([0113]; [0187]). It would have been obvious to one of ordinary skill in the art at the time of the invention to create time estimates of tasks in order to manage the project efficiently and effectively. This is well known.

Regarding Claims 12 and 25, Kroeger further discloses cost estimates for tasks ([0113]; [0174]; Table 1). It would have been obvious to one of ordinary skill in the art at the time of the invention to create cost estimates of tasks in order to manage the project efficiently and effectively. This is well known.

Regarding Claims 13, 28, and 37, Schwegler teaches an interactive three dimensional simulation (page 11/5, section 1.2).

Regarding Claims 14, 15, and 29, Kroeger further discloses sequencing and assigning tasks ([0067]; [0096]-[0103]; [0109]). It would have been obvious to one of ordinary skill in the art at the time of the invention to sequence and assign tasks accordingly in order to manage the project efficiently and effectively.

Regarding Claim 16, Schwegler does not specifically teach accessing engineering data for the construction project in a database, wherein generating a computerized simulation model is based on the engineering data; and accessing manufacturing data for the construction project in an other database, wherein mapping the project materials into constructible elements is based on the manufacturing data (page 11/10, sections 2.4 and 2.5; page 11/17, section 6.3);

Regarding Claim 30, Schwegler further teaches a reprioritization module configured to reprioritize the sequence of the work packages (page 11/10, section 2.5; re-sequence).

Regarding Claim 31, Schwegler further teaches analyzing spatial constraints between components and activities (page 11/11, section 3.1.3).

Regarding Claim 32, Schwegler further teaches a verification module configured to analyze resource constraints for the construction project to determine whether a work crew can execute the work package subject to the constraints (page 11/9, section 2.2; verify whether the design is buildable; page 11/15, section 5.2; verification of constructability and verification of site constraints in design and schedule).

Regarding Claim 33, Schwegler does not explicitly teach a converter module configured to convert data accessed from an external database into a common format for use in a

matching module. However, Schwegler does disclose use of the web (page 11/10, section 2.4), the use of e-commerce (page 11/17, section 6.5), and the importance of information exchange (page 11/16, sections 6.1 and 6.2). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the capability of accessing data from other databases in order to facilitate project management.

Response to Arguments

8. Applicant's arguments filed November 28, 2008 have been fully considered but they are not persuasive.

9. In response to Applicant's argument that *[n]either Schwegler, nor Kroeger suggest, creating any structures in a simulation model that include both a constructible element and a work step*, Examiner maintains the rejection. Applicant asserts that the invention *novelly creates in the simulation model a special structure, termed a "work package," which includes two different types of features. First, the work package includes at least one constructible element, which project materials are mapped to. Second, the work package includes as least one work step for the at least one constructible element.* In other words, a *work package* is software configured to delineate a construction task or job into what is to be constructed, what materials or resources are needed, and steps that need to be taken to complete the task.

Kroeger teaches software configured to make a *list of development tasks to be performed for the entire development project and to determine... the order in which each development project has to be completed. These construction tasks...* ([0005]).

Kroeger further teaches that *[a]ll elements of a project from inception through completion may be treated as tasks ([0106])*. For example, Kroeger teaches *Task description... Material Quantity... Building Construction... then Concrete Foundation... Under Slab Rough In... Mechanical Underslab...* (Table 1 and Table 1A). Indeed, Kroeger teaches software configured to delineate a construction task or job into what is to be constructed, what materials or resources are needed, and steps that need to be taken to complete the task. That Kroeger does not use the phrases *work package* or *constructible element* does not alter what is actually being done. Therefore, such differences do not effectively serve to patentably distinguish the claimed invention over the prior art.

Furthermore, Schwegler teaches *an interactive 4D visualization tool for design and construction. The tool allows design and construction professionals to review and change the design and corresponding construction schedule at several levels of details...* (page 11-4, ¶4). Portraying in 3D/4D is simulation. Schwegler further teaches *[e]ffective staging and sequencing of work enables efficient use of resources and minimizes the waste of labor and materials. Interactive 4D models should respond to these practical needs...* (page 11-6, ¶4). Schwegler is concerned with the use of resources needed to complete the "work" and believes that simulation models will help. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify and include in Schwegler's simulation the capability of Kroeger's invention to break down a project into smaller elements in order to manage the project efficiently and effectively. It is well known to break down large projects into smaller,

more manageable segments in order to complete the project. Therefore, Schwegler and Kroeger in combination clearly suggest creating *structures in a simulation model that include both a constructible element and a work step*.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEBRA ANTONIENKO whose telephone number is (571)270-3601. The examiner can normally be reached on Monday through Thursday, 7:30 AM to 4:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janice Mooneyham can be reached on 571-272-6805. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DA

/Tan Dean D. Nguyen/
Primary Examiner, Art Unit 3689
February 9, 2009